ECOSYSTEM STATUS INDICATORS

Forage Fish

Forage – Aleutian Islands

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Several groups have been defined as forage species by the North Pacific Fishery Management Council for management purposes. These groups include gunnels, lanternfish, sandfish, sandlance, smelts, stichaeids, and euphausiids. Some of these groups are captured incidentally in the RACE bottom trawl survey of the shelf, which may provide an index of abundance (Figure 48). This survey is not designed to assess these organisms and further detailed examinations of these results are needed to assess whether there are meaningful trends.

The Aleutian Islands forage species appear only sparingly in survey catches with occasional higher than normal catches. The spike of Pacific sandfish seen in the western Aleutian Islands in 1986 is a result of only 4 individuals appearing in one catch. Similarly, the highest catch rates for pricklebacks, eulachon and capelin are driven by only two to three unusually high catches. The large increase in pricklebacks seen in the western Aleutians in 1991 was attributable to only three catches, the largest being less than 8 kg. The high abundance of eulachon in the western Aleutians in 1994 was due to only two unusually large catches of 431 kg and 63 kg while the high cpue of capelin in the southern Bering Sea in 2000 was the result of one very unusually large catch of 221 kg.

The results of the 2002 survey indicated an apparent three-fold increase in the abundance of Pacific sandfish in the southern Bering Sea; however, over all surveys including the 2004 survey, Pacific sandfish densities have consistently been low, never exceeding 1 kg/km^2 and a frequency of occurrence greater than 2%. Other changes in 2004 include a sharp increase of Pacific sandlance in the Western Aleutians (a large increase from 2002) and a decrease in the central Aleutian Islands. Capelin abundance decreased (southern BS and eastern AI) or remained zero (central and western AI) in 2004. The abundance of pricklebacks in 2004 increased slightly in all areas except the eastern AI, where it decreased relative to 2002.

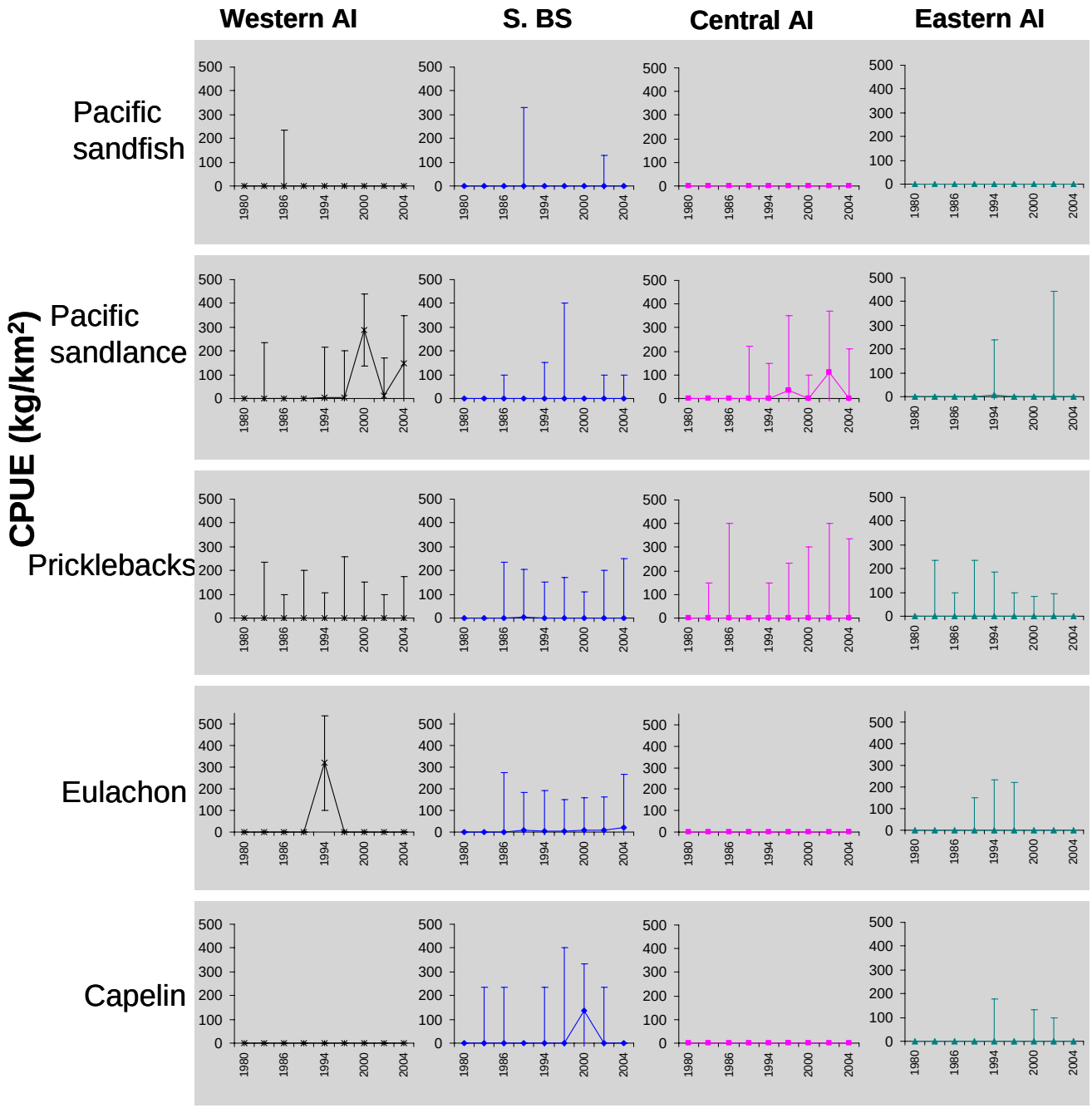

Figure 48. Catch per unit effort of forage fish per unit area in the western Aleutian Islands (AI), southern Bering Sea (BS), central AI, and eastern AI, in bottom trawl surveys conducted between 1980 and 2004. 95% confidence intervals are shown.